

CLAIMS

What is claimed is:

1. A system for cooling a backup power system and a substantially enclosed
5 space upon or after the occurrence of a power outage or reduction condition comprising:
a heat rejection system powered by the backup power system upon or after the
occurrence of a power outage or reduction condition for receiving heat transfer fluid from
a return path, rejecting heat from the heat transfer fluid and expelling the heat outside the
substantially enclosed space;

10 an air cooling system powered by the backup power system upon or after the
occurrence of a power outage or reduction condition for cooling air using heat transfer
fluid received from the heat rejection system and expelling the cooled air within the
substantially enclosed space; and

15 a flow path for circulating heat transfer fluid from either the heat rejection system
or the air cooling system through the backup power system to the return path.

2. The cooling system of claim 1 wherein the heat rejection system is within
or without the substantially enclosed space.

3. The cooling system of claim 2 wherein the heat rejection system is without
the substantially enclosed space.

20 4. The cooling system of claim 1 wherein the air cooling system is within or
without the substantially enclosed space.

5. The cooling system of claim 4 wherein the air cooling system is within the
substantially enclosed space.

25 6. The cooling system of claim 1 wherein the air cooling system cools air
received from within or without the substantially enclosed space.

7. The cooling system of claim 6 wherein the air cooling system cools air
received from within the substantially enclosed space.

8. The cooling system of claim 1 wherein the backup power system is within or without the substantially enclosed space.

9. The cooling system of claim 8 wherein the backup power system is within the substantially enclosed space.

5 10. The cooling system of claim 1 wherein the backup power system is an electrochemical power system.

11. The cooling system of claim 10 wherein the backup power system is a fuel cell or fuel cell system.

10 12. The cooling system of claim 10 wherein the backup power system is a battery or battery system.

13. The cooling system of claim 1 wherein the air cooling and backup power systems are in a series relationship.

14. The cooling system of claim 1 wherein the air cooling and backup power systems are in a parallel relationship.

15 15. The cooling system of claim 1 wherein the heat rejection system contains a compressor.

16. The cooling system of claim 1 wherein the air cooling system contains an evaporator.

20 17. A method of cooling a backup power system and a substantially enclosed space upon or after the occurrence of a power outage or reduction condition comprising:

using a backup power system to power a cooling system upon or after the occurrence of a power outage or reduction condition; and

using the cooling system to cool the backup power system and the substantially enclosed space upon or after the occurrence of a power outage or reduction condition.

25 18. The method of claim 17 wherein the cooling system comprises a heat rejection system and an air cooling system.

19. The method of claim 18 wherein the heat rejection system contains a compressor and the air cooling system contains an evaporator.

20. The method of claim 17 wherein the backup power system is an electrochemical power system.

21. The method of claim 20 wherein the electrochemical power system comprises a fuel cell or fuel cell system.

5 22. The method of claim 20 wherein the electrochemical power system comprises a battery or battery system.

23. A cooling and backup power system comprising the cooling system of claim 1 and the backup power system.

10 24. The cooling and backup power system of claim 23 wherein the backup power system and air cooling system are packaged separately from the heat rejection system.

25. The cooling and backup power system of claim 23 wherein the air cooling system and heat rejection system are packaged separately from the backup power system.

15 26. The cooling and backup power system of claim 23 wherein the backup power system and heat rejection system are packaged separately from the air cooling system.

27. A backup power system for powering a cooling system upon or after the occurrence of a power outage or reduction condition comprising:

an electrochemical power system; and

20 a flow path for heat transfer fluid to flow from the cooling system and through the electrochemical power system to a return path.

28. The backup power system of claim 27 wherein the electrochemical power system is a fuel cell or fuel cell system.

25 29. The backup power system of claim 27 wherein the electrochemical power system is a battery or battery system.

30. A system for cooling backup power means and a substantially enclosed space upon or after the occurrence of a power outage or reduction condition comprising:

heat rejection means powered by the backup power means upon or after the occurrence of a power outage or reduction condition for receiving heat transfer fluid from a return path, rejecting heat from the heat transfer fluid and expelling the heat outside the substantially enclosed space;

5 air cooling means powered by the backup power means upon or after the occurrence of a power outage or reduction condition for cooling air using heat transfer fluid received from the heat rejection means and expelling the cooled air within the substantially enclosed space; and

10 flow path means for circulating heat transfer fluid from either the heat rejection means or the air cooling means through the backup power means to the return path.